AMENDMENTS TO THE DRAWINGS:

The attached sheet(s) of drawing(s) includes amendments to Fig. 9. The label on the arrow extending from S43 to S44 has been changed from “No” to “Yes” and the label on the arrow extending from S43 to S45 has been changed from “Yes” to “No.”

Attachments: One Replacement Sheet (Fig. 9)

REMARKS

Applicant has amended claims 1 and 5 and Fig. 9 and added new claims 52 and 53. The claimed features are disclosed in the as-filed specification on pg. 23, l. 9 to pg. 26, l. 18 and in Figs. 10A-C and do not constitute new matter.

Applicant respectfully traverses the 35 U.S.C. § 101 rejection of claims 1-6 and 8-10. The Examiner alleges that the claims, as presented, appear to be merely an abstract idea as well as mere data manipulation. Applicant has amended claims 1 and 5 to include more recitation of the hardware used. The Applicant directs the Examiner's attention to page 13, lines 2-19 of the as-filed specification. The hardware is described in further detail in this section.

Applicant respectfully traverses the 35 U.S.C. § 102(b) rejection of claims 1-6 and 8-10 over "Deformation of n-dimensional objects" by Borrel et al. ("Borrel"). As recited in the present claims, e.g. amended independent claims 1 and 5, when a node is located on a single bending line of the article, the bending line being an intersection of a surface of a first shape element and a surface of a second shape element that meet at an intersection angle other than 180 degrees, the input device further receives an input of a predetermined angle, and when an angle, formed by a transformation instruction vector and a bending line vector being an extension of the bending line, is less than the predetermined angle, the node is displaced in a direction of the bending line vector and by an amount corresponding to a component of the input transformation instruction vector in the direction of the bending line vector, and when the angle formed by the transformation instruction vector and the bending line vector is equal to or greater than the predetermined angle, the node is

displaced in accordance with the transformation instruction vector, and when the node is located on the intersection of a plurality of bending lines of the article, the node is displaced in the direction of the bending line vector which forms the smallest angle with respect to the transformation instruction vector and by an amount corresponding to a component of the input transformation instruction vector in the direction of the bending line vector.

In the Office Action, the Examiner alleged that it was unclear what direction corresponds to the bending line and that the broadest reasonable interpretation of the claims would still be anticipated by Borrel, and specifically Fig. 12 of Borrel. The amendments to claims 1 and 5 further define the bending line and the direction which corresponds to the bending line vector, as shown in Figs. 10A-C and described on pg. 23, l. 9 to pg. 26, l. 18 of the present application. Also, Applicant has attached to this Amendment draft Figs. 10-1, 10-2, 10-3 which are annotated versions of as-filed Figs. 10A-C. These draft figures show the vectors and angles described on pg. 23, l. 9 to pg. 26, l. 18 of the present application. If the Examiner feels that the formal introduction of Figs. 10-1, 10-2, and 10-3 into the application would further advance prosecution on the merits and that these drawings meet the requirements set forth in 35 U.S.C. 113 and 37 CFR 1.81, Applicant would respectfully comply. Since the subject matter of these drawings are disclosed on as-filed pg. 23, l. 9 to pg. 26, l. 18, addition of these drawings to the application would not constitute new matter.

In Fig. 10-1, BL1 to BL4 represent the bending lines of the object, and DL1 and DL2 represent line segments corresponding to the locations that a transformation processing device 6 has subdivided a transformation region into shape elements.

The nodes located on the bending lines are indicated by black circles and the nodes not located in the bending lines are indicated by white circles. Figs. 10-2 shows how an angle (θ) formed by a transformation instruction vector (TIV) and a bending line vector being an extension of the bending line (BL1-BL4) is determined. A transformation instruction input device 5 receives a transformation instruction vector (TIV) and an predetermined angle (φ) between the transformation instruction vector and the bending line vector being an extension of the bending line. The transformation processing device 6 determines for each node on a bending line, whether or not the angle (θ) formed by the transformation instruction vector (TIV) and the bending line vector being an extension of the bending line (BL1-BL4) is less than the predetermined angle (φ). Fig. 10-2 further shows the direction of displacement in an instance when the angle (θ) formed by the transformation instruction vector (TIV) and the bending line vector being an extension of the bending line (BL1-BL4) is less than the predetermined angle (φ). Fig. 10-3 shows the direction of displacement in an instance three of the angles (θ) formed by the transformation instruction vector (TIV) and the bending line vectors being extensions of the bending line (BL1-BL3) is greater than the predetermined angle (φ).

The bending lines corresponding to front face of the object shown in Fig. 12 of Borrel would be the straight lines that comprise the two vertical edges and the two horizontal edges of the block. The bending line vectors would correspond to vectors pointing out from the corners of the block that continue the straight line of the bending line. Borrel, therefore, does not disclose that when a node is located on a single bending line of the article, the bending line being an intersection of a surface of

a first shape element and a surface of a second shape element that meet at an intersection angle other than 180 degrees, the input device further receives an input of a predetermined angle, and when an angle, formed by a transformation instruction vector and a bending line vector being an extension of the bending line, is less than the predetermined angle, the node is displaced in a direction of the bending line vector and by an amount corresponding to a component of the input transformation instruction vector in the direction of the bending line vector. Instead, Borrel discloses that the node is displaced in a direction of the transformation instruction vector regardless of the angle that is formed between transformation instruction vector and the vector extending from the bending line.

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1-6, 8-10, 52, and 53 in condition for allowance.

Applicant respectfully points out that the final action by the Examiner presented some new arguments as to the application of the art against Applicant's invention. It is respectfully submitted that the entering of the Amendment would allow the Applicant to reply to the final rejections and place the application in condition for allowance.

Finally, Applicant submits that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicant submits that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art

references cited against this application. Applicant therefore requests the entry of this Amendment, the Examiner's reconsideration of the application, and the allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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Dated: July 29, 2009

By: Alyssa Holtslander

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Attachments: **One Replacement Sheet of Drawings (Fig. 9)**
Figs. 10-1, 10-2, and 10-3